

CORRECTED VERSION

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number
WO 2005/056818 A1

(51) International Patent Classification⁷: **C12Q 1/04**,
G01N 27/26, C12N 1/20

(21) International Application Number:
PCT/CA2004/002076

(22) International Filing Date: 3 December 2004 (03.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/529,403 15 December 2003 (15.12.2003) US

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(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a
patent (Rule 4.17(ii)) for the following designation US
- of inventorship (Rule 4.17(iv)) for US only

Published:

- with international search report

(48) Date of publication of this corrected version:
9 September 2005

(15) Information about Correction:

see PCT Gazette No. 36/2005 of 9 September 2005, Sec-
tion II

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: **ELECTROCHEMICAL ASSAY FOR THE IDENTIFICATION OF MICROORGANISMS**

(57) Abstract: A method for the phenotypic identification of microorganisms is provided. The method is based on the evaluation of the effects of various compounds (effectors) on the respiratory cycle activity of microorganisms. Measurements are based upon the ability of the microorganism to transport electrons to an external chemical oxidant (a mediator) that is added to the microorganism sample. The mediator interacts with the terminal components of the respiratory pathway and the extent of its consumption is related to the ability of the microorganism to respire. The consumed mediator is subsequently measured electrochemically. Electrochemical signals which are generated in the presence or absence of an effector can be used to generate a signal pattern that is unique to an organism and can be used for identification.

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